#6

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

JAVITT, Dr. Daniel C., et al.

Appln. No.: 10/059,362 Group Art Unit: Not Yet Assigned

Confirmation No.: 8660 Examiner: Not Yet Assigned

Filed: January 31, 2002

For: GLYCINE SITE FULL AGONIST FOR TREATING A PSYCHOSIS

REQUEST FOR INTERFERENCE WITH A PATENT UNDER 37 C.F.R. § 1.607

Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicant hereby requests interference with U.S. Patent 6,228,875. Applicant considers the sections of 37 C.F.R. § 1.607 using the designations therein as follows:

37 C.F.R. § 1.607(a)(1):

Applicant requests intereference with U.S. Patent 6,228,875.

37 C.F.R. § 1.607(a)(2):

Applicant proposes the following count:

A pharmaceutical composition comprising (i) at least one agonist of the glycine site of an NMDA receptor and (ii) a second therapeutic agent selected from the group consisting of antipsychotics, antidepressants, psychostimulants, and Alzheimer's disease therapeutics, wherein:

the agonist is selected from the group consisting of D-alanine, a salt of D-alanine, an ester of D-alanine, alkylated D-alanine, a precursor of D-alanine, D-serine, a salt of D-serine, an ester of D-serine, alkylated D-serine, a precursor of D-serine, D-cycloserine, a salt of D-cycloserine, an ester of D-cycloserine, a precursor of D-cycloserine, and alkylated D-cycloserine; and the pharmaceutical composition is substantially free of D-cycloserine when the agonist is D-alanine, a salt of D-alanine, an ester of D-alanine, an alkylated D-alanine, or a precursor of D-alanine; and

when the agonist is D-cycloserine, a salt of D-cycloserine, an ester of D-cycloserine, a precursor of D-cycloserine, or alkylated D-cycloserine, the pharmaceutical composition comprises an amount of the agonist equivalent to 105-500 mg of D-cycloserine.

or

A method for treating a neuropsychiatric disorder characterized by attenuated NMDA neurotransmission in a patient, the method comprising administering to a patient diagnosed as suffering from the neuropsychiatric disorder a pharmaceutical composition comprising a therapeutically effective amount of an agonist of the glycine site of an NMDA receptor, wherein:

the agonist is selected from the group consisting of D-alanine, a salt of D-alanine, an ester of D-alanine, alkylated D-alanine, a precursor of D-alanine, D-serine, a salt of D-serine, an ester of D-serine, alkylated D-serine, a precursor of D-serine, D-cycloserine, a salt of D-cycloserine, an ester of D-cycloserine, a precursor of D-cycloserine, and alkylated D-cycloserine;

the pharmaceutical composition is substantially free of D-cycloserine when the agonist is D-alanine, a salt of D-alanine, an ester of D-alanine, an alkylated D-alanine, or a precursor of D-alanine; and

when the agonist is D-cycloserine, a salt of D-cycloserine, an ester of D-cycloserine, a precursor of D-cycloserine, or alkylated D-cycloserine, the pharmaceutical composition comprises an amount of the agonist equivalent to 105-500 mg of D-cycloserine.

37 C.F.R. § 1.607(a)(3):

Applicants identify at least claims 1 and 7 of the '875 patent as corresponding to the proposed count.

37 C.F.R. § 1.607(a)(4):

Claims 1 and 7 of U.S. patent 6,228,875, respectively, correspond exactly to the first and second alternate sections of the proposed count.

Claims 10-14 of the present application 10/059,362 correspond to the proposed count but do not correspond exactly to the proposed count. Accordingly, Applicant explains below why each of claims 10-14 corresponds to the proposed count.

Claims 10 and 11 correspond to the first alternate part of the proposed count, that is, the pharmaceutical composition part.

In the first part of the count, the pharmaceutical composition is stated to be comprising of (i) at least one agonist of the glycine site of an NMDA receptor where the agonist is selected

from a Markush group consisting of, *inter alia*, D-serine and a precursor of D-serine, with the pharmaceutical composition also comprising (ii), a second therapeutic agent selected from a Markush group including, *inter alia*, antipsychotics.

Claim 10 is more specific than the first part of the proposed count in that its pharmaceutical composition sets forth as the agonist either D-serine or a precursor of D-serine and as a second therapeutic agent, an antipsychotic. Thus, claim 10 is literally within the scope of the first part of the count.

Proposed claim 11 is dependent upon claim 10, stating that the antipsychotic is selected from three specific drugs.

In dependent claim 3 of the '875 patent (dependent on claim 1, claim 1 being identical to the first part of the proposed count), the therapeutic agent is selected from a listing of drugs, including the three specific drugs of claim 11, namely chlorpromazine, thioridiazine and clozapine. Accordingly, proposed claim 11 also corresponds to the first part of the proposed count for the same reasons why claim 10 does, plus the fact that it lists three specific antipsychotic agents which are stated by the '875 patentee as being within the Markush grouping of therapeutic agents of claim 1 of the '875 patent, said claim 1 being identical to the first part of the proposed count.

Proposed claims 12-14 correspond to the second part of the proposed count, that is, to the method part of the proposed count.

With respect to the preamble of claim 12 as compared to the second part of the proposed count, the terminology "neuropsychiatric disorder" as set forth in the preamble of the second part

of the count is substantially the same as the "psychosis" of claim 12. The schizophrenia of Applicants' proposed claims 13 and 14 is set forth in claim 8 of the '875 patent, dependent on claim 7, claim 7 being identical to the second part of the proposed count.

The remainder of the preamble of the second part of the count states that the neuropsychiatric disorder is characterized by attenuated NMDA neurotransmission. In the corresponding preamble part of proposed claim 12, Applicant states that the psychosis is characterized by dysfunction or dysregulation of NMDA neurotransmission in a patient. This part of Applicant's claim 12 may be considered as involving broader language than the "attenuated" language of the second part of the proposed count. However, bearing in mind that the operative step of Applicant's claim 12 is identical to that of the second part of count, that is to provide the agonist at the glycine site of a NMDA receptor, at most one might say that "attenuation" could be one part of the Applicant's dysfunction or dysregulation. The purpose of the claim is substantially the same, utilizing the same therapeutically effective agent.

Similar to the situation between Applicant's claim 10 and the first part of the proposed count, Applicant's claim 12 is narrower than the administration step of the second part of the count in that in the count the agonist can be selected from a Markush group including D-serine and a precursor of D-serine, while in Applicant's claim 12, the agonist is a more limited listing of D-serine and a precursor of D-serine. Accordingly, the body of proposed claim 12, that is, after the linking term "comprising", is literally within the body of the second part of the proposed count.

Proposed claim 13 is dependent upon claim 12, limiting the psychosis to schizophrenia. Schizophrenia is one of the neuropsychiatric disorders of the second part of the count as evidenced by dependent claim 8 of the '875 patent.

Claim 14 combines the features of schizophrenia with administration of D-serine, corresponding to claim 41 of the '875 patent.

37 C.F.R. § 1.607(a) (5):

Applicant applies the terms of application claims 10-14 to the disclosure of his application as follows:

Claim 10

In Study 1, which begins toward the bottom of page 4 of the present application, the glycine study treatment characteristics are summarized in Table 1 on page 8 of the present application, where it is seen that each of the seven subjects in addition to receiving glycine, also received an antipsychotic drug. Additional antipsychotic drugs are used in the D-cycloserine study. The five anti-psychotic drugs shown in Table 1 are sufficient to support the antipsychotic recitation in claim 10.

As a substitute for glycine, Applicant discloses D-serine at page 2, lines 6-7 and also at page 4, line 5. The precursors of D-serine, including an example of a type thereof, are set forth at the top of page 8 of the application, that is, at page 8, lines 1-5. Further description of said precursors is set forth in original claim 5.

The above disclosure in the application as filed is more than sufficient to support claim 10, bearing in mind that the claim, similar to the first part of the proposed count, does not recite the two ingredients thereof must be in a unitary dosage form. The Examiner is welcomed to review the '875 patent in this regard.

With respect to claim 11, as noted earlier, the claim sets forth three specific antipsychotic drugs as set forth in Table 1 on page 8 of the application as filed.

Turning to method claim 12, original claim 1 of the present application is directed to treating a human patient having a psychosis by administering a substitute for glycine at the glycine site or a precursor of said substitute or a glycine precursor in an amount sufficient to potentiate NMDA receptor mediated neurotransmision. At page 1 of the present application , in the second sentence under the heading "**BACKGROUND**" Applicant discusses the associated dysfunction or dysregulation of neurotransmission at the same receptor. This dysfunction or dysregulation is discussed as the rationale for proceeding with Study I, page 4, second line up of the present application. These portions of the application as filed support the preamble of claim 12. The operative step of administrating the agonist selected from D-serine or a precursor of D-serine is supported by original claims 3 and 5, and plus by the same portions of the application as filed mentioned with respect to the serine and precursor language as discussed above concerning claim 10.

Dependent claim 13 sets forth that the psychosis is schizophrenia. See original claim 6. Claim 14 is supported by a combination of claim 6 (as dependent of claim 1), plus the above-discussed disclosure for D-serine as the agonist.

37 C.F.R. § 1.607(a)(6):

Not applicable.

37 C.F.R. § 1.607(b):

Applicant requests under this section that the Office handle the present application with special dispatch. Applicant submits that at a minimum the Examiner should find that Applicant's dependent claims 11, 13 and 14 directly fall within the proposed count and directly fall within claims 1 and 7 of the '875 patent; accordingly, an Interference should be declared without the need for any prosecution in the present application.

37 C.F.R. § 1.607(c):

Applicant again identifies U.S. 6,228,875 as the patent for which interference is requested. Applicant states that Applicant's claim 10 substantially corresponds to claim 1 of the '875 patent, that Applicant's claim 11 substantially corresponds to claim 3 of the '875 patent, that Applicant's claim 12 substantially corresponds to claim 7 of the '875 patent; that Applicant's claim 13 substantially corresponds to claim 8 of the '875 patent and Applicant's claim 14 substantially corresponds to claim 41 of the '875 patent.

In addition, Applicant notes that certain dependent claims of the '875 patent are specific to inclusion of D-serine or a precursor or other related compound thereof as the agonist, and Applicant's claims 12 and 14 can also be considered to substantially correspond to at least those

dependent claims of '875 patent, such as claims 21, 22, 23, 24, 34, 35, 36, 37, 38, 39, 40, 42, 43, 44, 45, 46, 50, and 51.

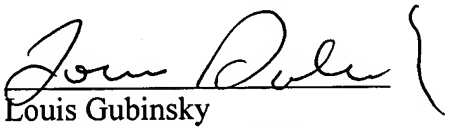
Applicant is of the viewpoint that a Statement Under 37 C.F.R. § 1.608(a) is not needed once review is made of Applicant's grandparent application, benefit of which is requested, now U.S. Patent 6,162,827, filed December 7, 1998 as a divisional of Application 08/759,714, filed December 6, 1996 (now U.S. 5,854,286). This 1996 date is over one year earlier than the provisional application filing date claimed for benefit by the '875 patent.

Copies of U.S. 6,162,827 and 5,854,286 are enclosed herewith as part of an IDS.

In the '827 grand-parent patent of the present application , under SUMMARY OF THE INVENTION, at column 4, lines 38-43, the inventor states that D-serine can be administered as a substitute for glycine at the glycine site of the NMDA receptor complex. In addition, schizophrenia is described as the primary psychotic condition to be treated by the invention of the '827 patent (column 4, lines 23-24, etc.) and the three antipsychotic medications set forth in claim 11 of the present application are found in the paragraph of column 5, lines 36-51 of the '827 patent.

From the above, Applicant is entitled to the benefit of an effective filing date of at least December 6, 1996 for one or more embodiments within their claims 10-14, and also within the proposed count, thereby establishing an effective filing date for interference purposes prior to the earliest effective filing date (1998) alleged by the '875 patent.

Respectfully submitted,



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